

Cleaning Up

Kaho'olawe

Navy Nearly Finished With Ordnance Removal on Former Bombing Range

The Navy is nearly complete with a project to remove ordnance and cleanup a former bombing range on Kaho'olawe, HI.

Kaho'olawe (ka-who-LA-way) is the smallest of eight major islands of the Hawaiian archipelago, and is located approximately six miles southwest of Maui. The island is 11 miles long, seven miles at the widest point, and comprises 28,788 acres. Earliest evidence indicates Hawaiian presence on the island around 1000 A.D. The island's terrain is rugged and remote with limited infrastructure. It has dry land, woody vegetation,

hardpan topography, and no natural water resources.

The use of Kaho'olawe as a bombing and ship artillery range began after the attack on Pearl Harbor on 7 December 1941. The island was used as a weapons range from then until 1990, when then-President George H.W. Bush directed the use of Kaho'olawe as a weapons range to be discontinued.

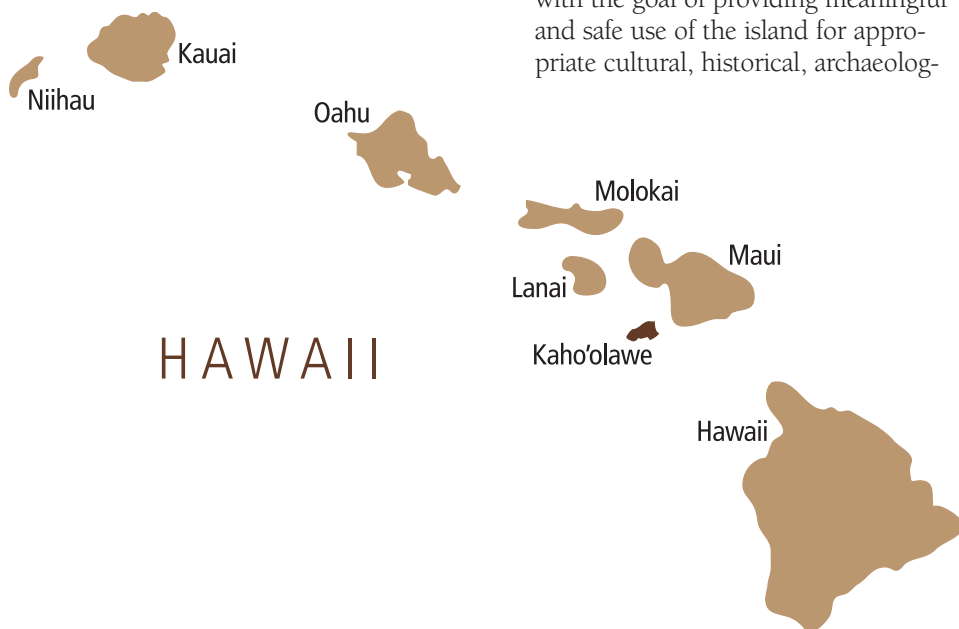
Kaho'olawe was conveyed to the State of Hawaii under the FY 1994 Department of Defense (DoD) Appropriations Act. Clearance of unexploded ordnance and environmental restoration began at that time, with the goal of providing meaningful and safe use of the island for appropriate cultural, historical, archaeolog-

ical and educational purposes as determined by the State.

Between 1994 and 1997, the Navy partnered with the Kaho'olawe Island Reserve Commission to develop a cleanup plan for ordnance removal and environmental cleanup of the island. A contract was awarded in July 1997 to a joint venture of Parsons Infrastructure & Technology Group of Pasadena, CA and UXB International of Ashburn, VA. The focus is on ordnance clearance, but also includes base camp operations, construction, architect-engineering services, historical/cultural resources, natural resources, and transportation. Work began June 1998. The Program Manager is the Commander, Navy Region Hawaii, and the contracts and technical support is provided by the Commander, Naval Facilities Engineering Command, Pacific Division.

The Basics About the Kaho'olawe Cleanup

- The Kaho'olawe cleanup project is the largest and longest continuous unexploded ordnance (UXO) project ever attempted by DoD.
- One of eight dedicated helicopters takes off from Maui every five minutes beginning at about 5 a.m. The helicopters ferry 380 workers to and from the island Monday through Thursday for 10-hour workdays. Fridays are reserved for exploding UXO that was gathered during the week.



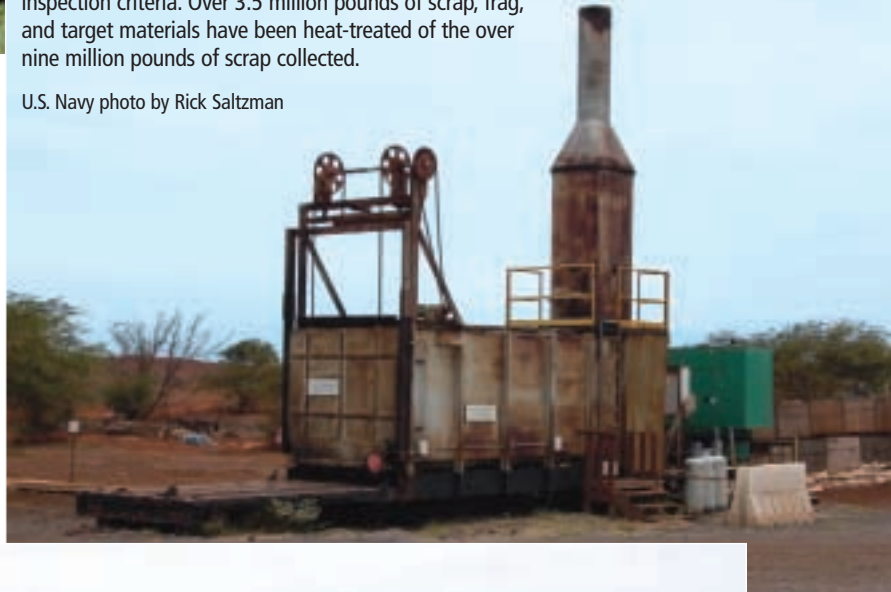
Kaho'olawe UXO clearance is supported by the largest civil helicopter operation in the nation. A portion of the "Kaho'olawe Air Force" is shown at the base camp landing zone.

Parsons UXB JV photo



A self-contained car bottom furnace is used to treat range scrap and other material on-site that do not meet the Navy's explosive free visual inspection criteria. Over 3.5 million pounds of scrap, frag, and target materials have been heat-treated of the over nine million pounds of scrap collected.

U.S. Navy photo by Rick Saltzman



- A sophisticated radio system pinpoints the movement of every individual on the island.
- A global positioning system (GPS) -based map keeps track of every piece of UXO in each of the 11,000 grid units, each 100 meters by 100 meters.
- A three-member team surveys every grid on the map: a UXO technician identifies ordnance; a natural resources specialist identifies and logs endangered species of plants and animals; and an archaeologist documents significant historic, cultural or religious artifacts.

The Clearance Process

The UXO clearance process for any area takes about six to nine months and includes survey, archaeological investigation, examination for natural resource features, brush and tree clear-

Range clearance teams with a higher UXO technician-to-support worker ratio do surface clearance in high hazard areas. Use of magnets on a stick provided a significant increase in production and decrease in injuries.

Photo by Jim Putnam





Demolition team setting off detonation from a safe distance.

Photo by John Boyden, Parsons-UXB JV

A Global Positioning System (GPS), accurate to centimeters, is extensively used for all aspects of site investigation and UXO clearance. The data is maintained in a state-of-the-art database and GIS system. The photo shows the lava rock boulders that compound the difficulty of clearance because of their high magnetite content.

Photo by John Boyden, Parsons-UXB JV



Experts identify every UXO found as to type and fuzing. Data, including GPS location, is recorded in the Geographic Information System for contractor and Navy review prior to removal of blow-in-place. Shown are contractor and Navy experts.

Photo by John Boyden, Parsons-UXB JV

ance, surface pickup of scrap and debris, subsurface detection with instruments, excavation and, ultimately, UXO disposal. The preferred method of UXO disposal is to blow it up where it is found unless there would be harm to archaeological sites or natural resources. In this case, special protective barriers are considered or the UXO is moved to another area for demolition (if possible). The Navy performs constant monitoring of contractor work with full-time staffs.

Cleanup Status

As of 15 August 2003, the following statistics have been recorded:

- 19,500 acres cleared (net) to the Tier I ordnance clearance standard of which 2,500 acres (net) were further cleared to the Tier II standard.
- Over eight million pounds of fragments, remnants and target material were collected and sorted.
- 3.1 million pounds of the above have been “heat treated” on-island to remove any ordnance remnants/contamination and sent off-island for recycling.
- 2,200 cubic yards of tires have been collected, inspected and shipped to a recycler.
- Approximately 100,000 UXO items have been identified and disposed of.
- Approximately 4.5 million work hours were logged without an explosive safety-related injury or accident.

The UXO and environmental restoration of Kaho’olawe is now winding down. The Navy plans to transfer access control of Kaho’olawe to the State of Hawaii in November of 2004 and should have demobilization completed by March 2004. ⚓

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